

REMARKS

This Amendment is submitted in response to the non-final Office Action mailed on September 13, 2002. Claims 1, 8, 21, 25 and 31 have been amended, and claims 1, 2, 6-14, 18-21 and 23-41 remain in the present application. In view of the foregoing amendments, as well as the following remarks, Applicants respectfully submit that this application is in complete condition for allowance and request reconsideration of the application in this regard.

Claims 1, 6-8, 10-12, 18-19, 25, 27-31, 33-35 and 37-40 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Claes et al., U.S. Patent No. 5,326,138. Claims 1, 6-8 and 18-19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Japanese Patent JP 6-185681. Lastly, claims 2, 9, 13-14, 20-21, 23-24, 26, 32, 36 and 41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Claes et al. While Applicants respectfully traverse these rejections, Applicants have amended independent claims 1, 8, 21, 25 and 31 to more sharply define the present invention over the prior art of record and respectfully request that the rejections be withdrawn.

In particular, Applicants have amended each of independent claims 1, 8, 21, 25 and 31 to recite the coupling comprises a metal sleeve. Each of these independent claims recites that the rigid annular corrugation on the sleeve engages the annular corrugation on the first pipe section end to secure the sleeve on the first pipe section. Applicants have further amended each of these claims to recite

that the engagement of the annular corrugation of the sleeve with the annular corrugation of the first pipe section end which secures the sleeve on the first pipe section thereby prevents separation of the sleeve from the first pipe section.

By contrast, Claes et al. is directed to a plastic sleeve (see column 1, lines 26-29), and there is no teaching or suggestion in Claes et al. of a rigid annular corrugation on the sleeve that engages an annular corrugation on a first pipe section end to secure the sleeve on the first pipe section and thereby prevent separation of the sleeve from the first pipe section. Examiner takes the position that Claes et al. discloses a corrugation (10) on the sleeve for engaging the pipe. However, Applicants respectfully submit that the corrugation (10) of Claes et al. does not secure the sleeve on the first pipe section to thereby prevent separation of the sleeve from the first pipe section as claimed by Applicants in each of independent claims 1, 8, 21, 25 and 31. Rather, the corrugation (10) of Claes et al. merely serves as an inward valley or stop around the geometric center of the sleeve to limit the extent of engagement of the tubing ends to ensure that each is received to the same, proper depth within the sleeve (see column 3, lines 46-52). In other words, the corrugation (10) of Claes et al. does not secure the sleeve on the first pipe section to thereby prevent separation of the sleeve from the first pipe section as claimed by Applicants. This is evident from FIG. 2 of Claes et al. where it is clear that the corrugation (10) does not secure the sleeve on the left-side pipe section end since the sleeve can be separated from the left-side pipe section end

simply by pulling the sleeve to the right and thereby separating the left-side pipe section end from the sleeve. For each of the reasons noted above, Applicants respectfully submit that independent claims 1, 8, 21, 25 and 31 are allowable over Claes et al. taken alone, or in combination with the other prior art of record, and Applicants respectfully request that the rejections be withdrawn.

With respect to the Japanese reference, Applicants enclose herewith an uncertified English translation of that reference with respect to FIG. 5 thereof which discloses a plastic sleeve (S_2) which is "blow molded" onto the end of the double-wall pipe (21). Applicants respectfully submit that the Japanese reference does not disclose a metal sleeve as claimed by Applicants, and there is no teaching or suggestion to modify this reference to include a metal sleeve since this would destroy the intended structure, purpose and function of the plastic sleeve (S_2) of this reference which is intended to be blow molded onto the end of the double-wall pipe.

With respect to FIG. 7 of the Japanese reference, a detent (unlabeled) is shown on the upper left side of the sleeve, but that detent does not form an annular corrugation since there is no detent present on the bottom left side of the sleeve shown in FIG. 7. Accordingly, Applicants submit that FIG. 7 of the Japanese reference does not teach or suggest an annular corrugation on one side of the sleeve that is oriented perpendicular to a longitudinal axis of the sleeve as

recited in each of independent claims 1 and 8 and the rejections should be withdrawn.

Moreover, as claims 2, 6-7, 9-14, 18-20, 23-24, 26-30 and 32-41 depend from allowable independent claims 1, 8, 21, 25 and 31, and further as each of these claims recites a combination of elements not disclosed or suggested by the prior art of record, Applicants respectfully submit that these claims are allowable as well.

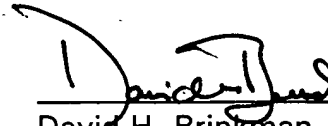
Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made".

Conclusion

In view of the foregoing response including the amendments and remarks, this application is submitted to be in complete condition for allowance and early notice to this affect is earnestly solicited. If there is any issue that remains which may be resolved by telephone conference, the Examiner is invited to contact the undersigned in order to resolve the same and expedite the allowance of this application.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "David H. Brinkman", is written over a horizontal line.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 1, 8, 21, 25 and 31 have been amended as follows:

1. (THRICE AMENDED) A pipe coupling for interconnecting adjacent ends of first and second pipe sections, the end of the first pipe section having an annular corrugation, said coupling comprising:

a generally cylindrical metal sleeve having first and second sides;

at least one rigid annular corrugation on said first side of said sleeve being oriented perpendicular to a longitudinal axis of said sleeve and adapted to cooperatively engage the annular corrugation on the first pipe section end to secure said sleeve on the first pipe section and thereby prevent separation of said sleeve from the first pipe section; and

a bell on said second side of said sleeve having an inner wall of generally constant diameter and being adapted to slidably receive in an axial direction the second pipe section end within said sleeve;

whereby said coupling is adapted to interconnect said adjacent ends of said first and second pipe sections.

8. (THRICE AMENDED) In combination, a pipe coupling and first and second pipe sections, the end of the first pipe section having an annular corrugation, and said coupling comprising:

a generally cylindrical metal sleeve having first and second sides;
at least one rigid annular corrugation on said first side of said sleeve
being oriented perpendicular to a longitudinal axis of said sleeve and adapted to
cooperatively engage the annular corrugation on the first pipe section end to secure
said sleeve on the first pipe section and thereby prevent separation of said sleeve
from the first pipe section; and
a bell on said second side of said sleeve having an inner wall of
generally constant diameter and being adapted to slidably receive in an axial
direction the second pipe section end within said sleeve;
whereby said coupling interconnects said adjacent ends of said first
and second pipe sections.

21. (THRICE AMENDED) A method of interconnecting adjacent ends of first
and second pipe sections, the end of the first pipe section having an annular
corrugation, the method comprising the steps of:

providing a substantially flat metal sheet;
forming a rigid corrugation across the width of said substantially flat
sheet;
wrapping said sheet into a cylindrical metal sleeve including a first side
having said rigid corrugation oriented perpendicular to a longitudinal axis of said

sleeve and a second side having a bell with an inner wall of generally constant diameter;

securing said sleeve about the first pipe section end by cooperatively engaging said rigid corrugation of said sleeve with the annular corrugation of the first pipe section end to thereby prevent separation of said sleeve from the first pipe section; and

slidably receiving in an axial direction the second pipe section end within said bell to interconnect the adjacent ends of the first and second pipe sections.

25. (AMENDED) A pipe coupling for interconnecting adjacent ends of first and second pipe sections, the end of the first pipe section having an annular corrugation, said coupling comprising:

a generally cylindrical metal sleeve having first and second sides;

at least one rigid annular corrugation on said first side of said sleeve being oriented perpendicular to a longitudinal axis of said sleeve and adapted to cooperatively engage the annular corrugation on the first pipe section end to secure said sleeve on the first pipe section and thereby prevent separation of said sleeve from the first pipe section;

a bell on said second side of said sleeve being adapted to slidably receive in an axial direction the second pipe section end within said sleeve;

a gasket adapted to be disposed circumferentially about said second pipe section, said gasket adapted to contact and confront an inner surface of said bell when said second pipe section is slidably received by said bell; and

a radially inwardly directed annular projection disposed about the inner diameter of said bell, said annular projection adapted to engage said gasket and retain said second pipe section end within said bell;

whereby said coupling is adapted to interconnect said adjacent ends of said first and second pipe sections.

31. (AMENDED) In combination, a pipe coupling and first and second pipe sections, the end of the first pipe section having an annular corrugation, and said coupling comprising:

a generally cylindrical metal sleeve having first and second sides;

at least one rigid annular corrugation on said first side of said sleeve being oriented perpendicular to a longitudinal axis of said sleeve and adapted to cooperatively engage the annular corrugation on the first pipe section end to secure said sleeve on the first pipe section and thereby prevent separation of said sleeve from the first pipe section;

a bell on said second side of said sleeve being adapted to slidably receive in an axial direction the second pipe section end within said sleeve;

a first gasket disposed circumferentially about said second pipe section, said gasket contacting and confronting an inner surface of said bell when said second pipe section is slidably received by said bell; and

a radially inwardly directed annular projection disposed about the inner diameter of said bell, said annular projection engaging said first gasket and retaining said second pipe section end within said bell;

whereby said coupling interconnects said adjacent ends of said first and second pipe sections.